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## Supporting institutional development in land administration

Enemark, Stig

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**ECONOMIC AND SOCIAL COUNCIL**

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**Seventeenth United Nations Regional Cartographic  
Conference for Asia and the Pacific  
Bangkok, 18-22 September 2006  
Item 7 of the provisional agenda\***

**INVITED PAPERS**

**SUPPORTING INSTITUTIONAL DEVELOPMENT  
IN LAND ADMINISTRATION**

**Submitted by International Federation of Surveyors (FIG) \*\***

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**\* E/CONF.97/1**

**\*\* Prepared by Prof. Stig Enemark, Vice-President of FIG.**

## Supporting Institutional Development in Land Administration

Prof. Stig Enemark  
Vice-President of FIG

Department of Development and Planning  
Aalborg University, Denmark  
Email: [enemark@land.aau.dk](mailto:enemark@land.aau.dk)

### ABSTRACT

Land management is the process by which the resources of land are put into good effect. Land management encompasses all activities associated with the management of land and natural resources that are required to achieve sustainable development. Land Administration Systems are institutional frameworks complicated by the tasks they must perform, by national cultural, political and judicial settings, and by technology. This paper facilitates an overall understanding of the land management paradigm.

However, in many countries, and especially developing countries and countries in transition, the national capacity to manage land rights, restrictions and responsibilities is not well developed in terms of mature institutions and the necessary human resources and skills. The paper examines the capacity building concept and underpins the need for institutional development to facilitate the design and implementation of efficient Land Administration Models and to support good governance.

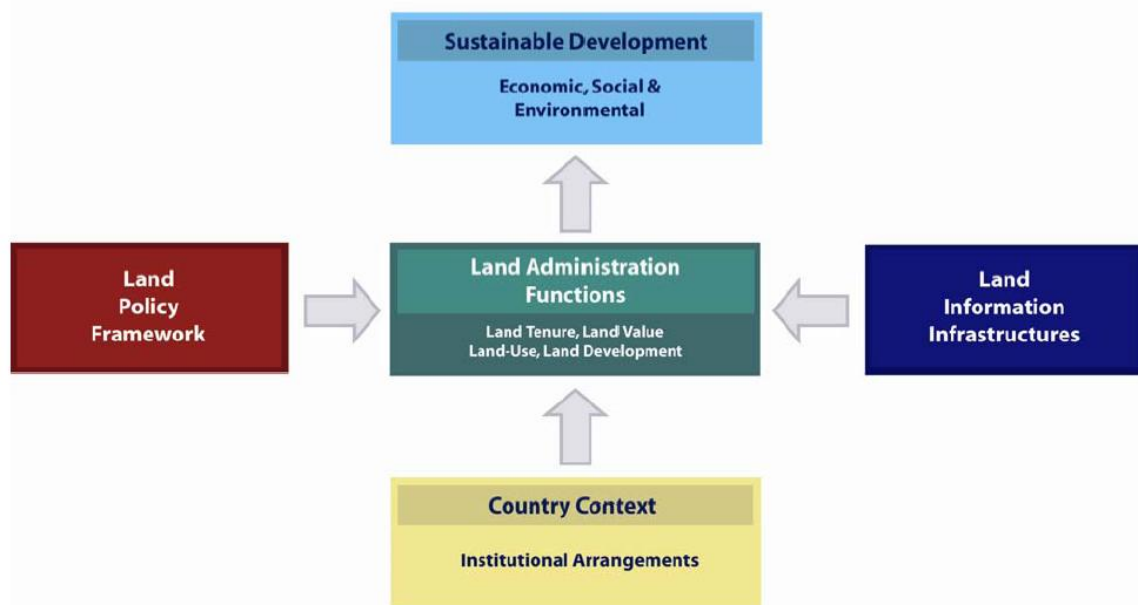
The paper identifies the role of FIG in this regard. This includes support for professional, institutional and global development in surveying and land management, and aims to facilitate the creation of sustainable institutional infrastructures.

Finally, the paper presents the results of the UN/FIG/PC-IDEA special forum held in Aguascalientes, Mexico on 26-27 October 2004 with the theme of “The Development of Land Information Policies in the Americas”. This was the result of a resolution from the Seventh United Nations Regional Cartographic Conference for the Americas (UNRCCA) held in January 2001 in New York, which was supported by a resolution of the UNRCC-AP held in Okinawa, Japan, 14-18 July 2003. FIG was tasked with taking the lead role in planning and arranging the Special Forum.

## LAND MANAGEMENT AND LAND ADMINISTRATION

Land management is the process by which the resources of land are put into good effect (UN-ECE 1996). Land management encompasses all activities associated with the management of land and natural resources that are required to achieve sustainable development. The concept of land includes properties and natural resources and thereby encompasses the total natural and build environment.

The organizational structures for land management differ widely between countries and regions throughout the world, and reflect local cultural and judicial settings. The institutional arrangements may change over time to better support the implementation of land policies and good governance. Within this country context, the land management activities may be described by the three components: Land Policies, Land Information Infrastructures, and Land Administration Functions in support of Sustainable Development. This Land Management Paradigm is presented in the figure below (Enemark et al., 2005):



*The Land Management Paradigm*

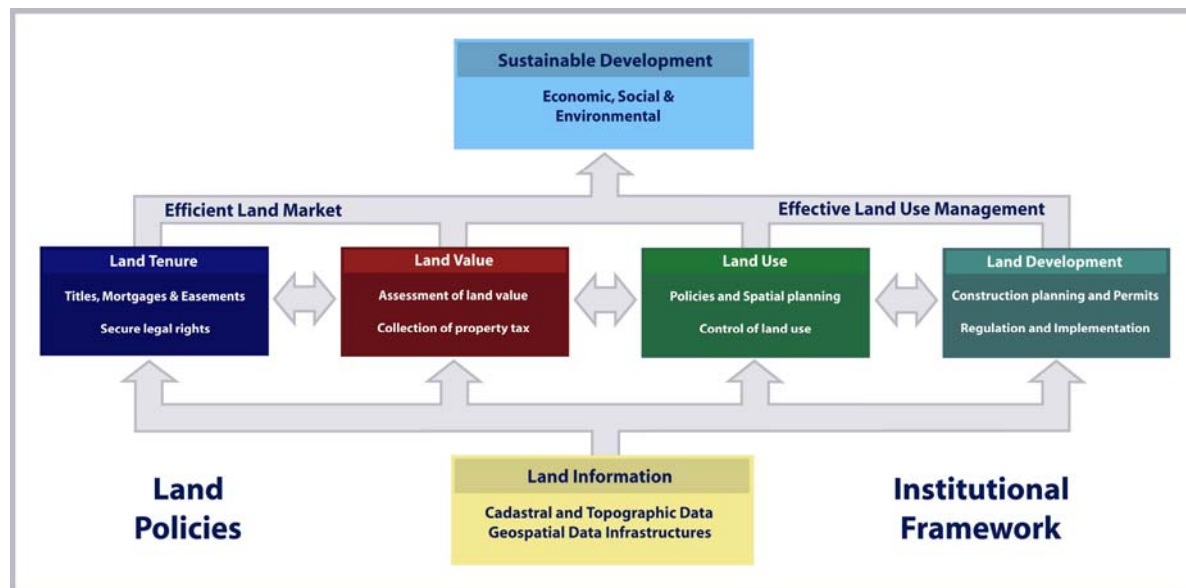
Land policy is part of the national policy on promoting objectives including economic development, social justice and equity, and political stability. Land policies may be associated with: security of tenure; land markets (particularly land transactions and access to credit); real property taxation; sustainable management and control of land use, natural resources and the environment; the provision of land for the poor, ethnic minorities and women; and measures to prevent land speculation and to manage land disputes.

Sound land management is the operational processes of implementing land policies in comprehensive and sustainable ways. In many countries, however, there is a tendency to separate land tenure rights from land use rights. There is then no effective institutional mechanism for linking planning and land use controls with land values and the operation of the land market. These problems are often compounded by poor administrative and management procedures that fail to deliver required services. Investment in new technology will only go a small way towards solving a much deeper problem; the failure to treat land and its resources as a coherent whole.

The operational component of the land management paradigm is the range of land administration functions that ensure proper management of rights, restrictions and responsibilities in relation to property, land and natural resources. These functions include the areas of land tenure (securing and transferring rights in land); land value (valuation and taxation of land and properties); land-use (planning and control of the use of land and natural resources); and land development (utilities, infrastructure, construction planning, permits, and implementation).

Modern Land Administration Systems should facilitate sustainable development - the triple bottom line of economic, social and environmental sustainability - through public participation and informed and accountable government decision-making in relation to the built and natural environments. The land administration functions are based on and are facilitated by appropriate land information infrastructures that include cadastral and topographic datasets and provide access to complete and up-to-date information of the built and natural environment. This is illustrated in the diagram below (Enemark, 2004):

:



A Global Land Management Perspective. Stig Enemark, April 2004.

A modern Land Administration System is concerned with providing detailed information at the individual land parcel level. It should service the needs of both the individual and the community at large. Benefits arise through its application in guaranteeing of ownership, security of tenure and credit; facilitating efficient land transfers and land markets; supporting management of assets; and providing basic information in processes of physical planning, land development and environmental control. The system, this way, acts as a backbone for society.

These ambitious goals will not be achieved unless there is a commitment to designing and implementing effective land administration infrastructures. These may be described as the organizations, standards, processes, information and dissemination systems and technologies required to support the allocation, transfer, dealing and use of land (UN-FIG 1999).

## **CAPACITY BUILDING AND INSTITUTIONAL DEVELOPMENT**

Good governance, comprehensive land policies, and sound land administration institutions are essential components for addressing the problems related to land management and land information infrastructures. Both an efficient land market and an effective means of land-use control must be developed as the basic tools for achieving a sustainable approach. However, in many countries, and especially developing countries and countries in transition, the national capacity to manage land rights, restrictions and responsibilities is not well developed in terms of mature institutions and the necessary human resources and skills. In this regard, the capacity building concept offers some guidance for analyzing and assessing the capacity needs and for identifying an adequate response to these needs at societal, organizational and individual levels.

The term capacity building is relatively new, emerging in the 1980s. It has many different meanings and interpretations depending upon who uses it and in what context. It is generally accepted that capacity building as a concept is closely related to education, training and human resource development (HRD). However, this conventional understanding has changed over recent years towards a broader and more holistic view, covering social, organizational and educational aspects.

UNDP (1998) offers this basic definition: *“Capacity can be defined as the ability of individuals and organizations or organizational units to perform functions effectively, efficiently and sustainable.”* Capacity is seen as two-dimensional:

*Capacity Assessment* or diagnosis is an essential basis for the formulation of coherent strategies for capacity development. This is a structured and analytical process whereby the various dimensions of capacity are assessed within a broader systems context, as well as being evaluated for specific entities and individuals within the system. Capacity assessment may be carried out in relation to donor projects e.g. in land administration, or it may be carried out as an in-country activity of self-assessment.

*Capacity Development* is a concept that is broader than HRD since it includes an emphasis on the overall system, environment and context within which individuals, organizations and societies operate and interact. Even if the focus of concern is on a specific capacity with an organization to perform a particular function, there must nevertheless always be a consideration of the overall policy environment and the coherence of specific actions with macro-level conditions. Capacity development does not, of course, imply that there is no capacity in existence; it also includes retaining and strengthening existing capacities of people and organizations to perform their tasks.

The more complete definition offered by the UNDP and also the OECD for capacity development is “... *the process by which individuals, groups, organizations, institutions and societies increase their abilities to: perform core functions, solve problems, and define and achieve objectives; to understand and deal with their development needs in a broader context and in a sustainable manner.*”

Capacity Development is basically about institutional development. In this regard, institutions may relate to organizations such as national agencies or local authorities, or it may relate to the more theoretical terms where “institutions are the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction” (North, 1990). Institutions are the formal and informal rules, norms and standards guiding human choices and behavior. It also includes implementation aspects such as enforcement mechanisms. Agencies, organizations and persons are actors. North uses the analogy of a football match. The institutions are the rules of the game; the teams and players are the actors. Property right is such an institution in society and the cadastre plays a most important role to make the institution of real property right work by facilitating and reducing the costs in a variety of transactions such as land transfers, land taxation and control of land use and land development.

## **INSTITUTIONAL DEVELOPMENT IN LAND MANAGEMENT**

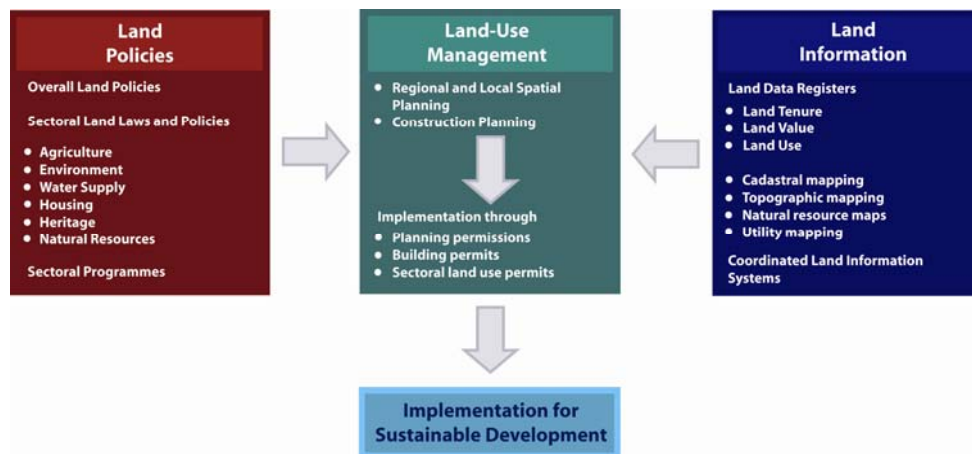
The Land management activities rely on some form of land administration infrastructure that permits the complex range of rights, restrictions and responsibilities in land to be identified, mapped and managed as a basis for policy implementation. In this context there is a whole range of capacity building and HRD principles and options to be considered.

Institutional development in Land Management implies adoption of long-term strategic actions. This includes the need to:

- Establish a strategic approach to donor projects and ensure that capacity building measures are addressed up front – not as an add-on.
- Develop in-country self assessment procedures to identify the capacity needs and thereby argue for the necessary measures of capacity development in terms of policies, legal framework, institutional infrastructures, and human resources and skills.

- Promote the creation and adoption of a comprehensive policy on land development and establish a holistic approach to land management that combines the land administration/cadastral/land registration function with the topographic mapping function
- Establish a clear split of duties and responsibilities between national and local government (decentralization). Ensure that the principles of good governance apply when dealing with rights, regulations and responsibilities with regard to land resources and land development.
- Promote the understanding of land management as highly interdisciplinary that includes a whole range of policy measures such as social, economic, environmental, judicial, and organizational.
- Promote the need for an interdisciplinary approach to 'surveying education' that combines both technical and social science and links the areas of measurement science and land management through a strong emphasis on spatial information management.
- Establish strong professional bodies such as a national institution of surveyors who are responsible for the development and control of professional standards and ethics, enhancement of professional competence, and interaction with governmental agencies to develop the optimal conditions and services.
- Promote the need for CPD to maintain and develop professional skills and promote the interaction between education, research and professional practice.

Adoption of a comprehensive policy on land management is crucial since this will drive the legislative reform which in turn results in institutional reform and finally implementation with all its technical and human resource requirements. Such an approach is shown in diagram below (Enemark, 2004):



*Integrated Land Use Management for Sustainable Development.*



A good overall approach is to look at the four steps that constitute good strategic management: where are we now; where do we want to be; how do we get there; and how do we stay there. This approach is in line with the broad capacity building concept which aims to assess, develop and sustain as shown in the diagram below (Enemark, 2005).

Capacity Assessment	Capacity Development	Sustainability
<ul style="list-style-type: none"> <li>• Are the policies on land management clearly expressed?</li> <li>• Is the legal framework sufficient and adequate?</li> <li>• Are the institutions adequate and are the responsibilities clearly expressed?</li> <li>• Are the guiding principles for good management well expressed?</li> <li>• Are the human resources and skills adequate and are the relevant education and training opportunities available?</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of an overall land policy</li> <li>• Design of a legal framework addressing the rights, restrictions and responsibilities in land.</li> <li>• Implementation of an organizational framework with clearly expressed duties and responsibilities</li> <li>• Adoption of clearly expressed guiding principles for good governance.</li> <li>• Establishment of adequate and sufficient educational options at all levels.</li> </ul>	<ul style="list-style-type: none"> <li>• Instigation of a self-monitoring culture in which all parties, national and local government, NGOs, professionals and citizens, review and discuss progress and suggest any appropriate changes.</li> <li>• Lessons learnt need to be fed back into the process for continuous improvement.</li> <li>• Implementation of adequate requirements and options for activities of Continuing Professional Development (CPD).</li> </ul>

## THE ROLE OF FIG

FIG can support the process of building capacity for sustainable land management in three ways:

- **Professional development**  
FIG provides a global forum for discussion and exchange of experiences and new developments between member countries and between individual professionals in the broad areas of surveying and mapping, spatial information management, and land management. This relates to the FIG annual conferences, the FIG regional conferences, and the work of the ten technical commissions within their working groups and commission seminars. This global forum offers opportunities to take part in the development of many aspects of surveying practice and the various disciplines including ethics, standards, education and training, and a whole range of professional areas.

- **Institutional development**

FIG provides institutional support to individual member countries or regions with regard to developing the basic capacity in terms of educational programs and professional organizations. The educational basis must include programs at minimum Bachelor level that include the combination of surveying and mapping, Spatial Information management, and Land Management. Such programs combine the land administration/cadastral/land registration function with the topographic mapping function within a holistic land management perspective. The professional organizations must include the basic mechanisms for professional development including standards, ethics and professional code of conduct for serving the clients.

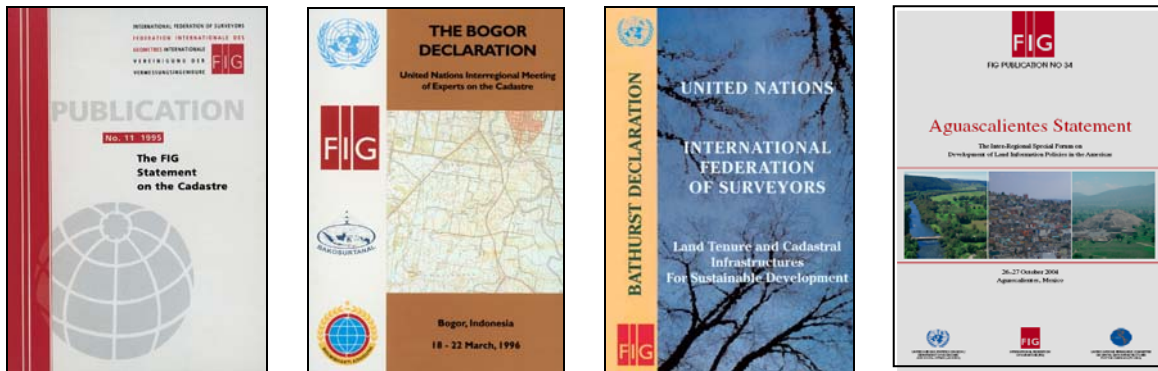
- **Global development**

FIG provides a global forum for institutional development through cooperation with international NGO's such as the United Nations Agencies (UNEP, FAO, HABITAT), the World Bank, and sister organizations (IAG, ICA, IHO, and ISPRS). The cooperation includes a whole range of activities such as joint projects (e.g. Bathurst, Aguascalientes), and joint policy making e.g. through round tables. This should lead to joint efforts of addressing topical issues on the international political agenda, such as reduction of poverty and enforcement of sustainable development.

The three means of development are of course interrelated and interdependent. Professional development requires that both a professional organization and an educational basis are in place. Institutional development in terms of mature public agencies and policies requires a solid professional and educational base in order to establish a holistic and sustainable approach to land management based on principles of good governance and an adequate balance between the activities of the public and private sector. And global development of course requires mature NGO's with a strong professional base.

FIG, this way, plays a strong role in improving the capacity to design, build, and manage land administration systems which incorporate spatial data infrastructures.

Throughout the last 10-15 years FIG has taken a lead role in explaining the importance of sound land administration systems as a basis for achieving "the triple bottom line" in terms of economic, social and environmental sustainability. International organizations such as UN, FAO, HABITAT and especially the World Bank have been key actors in this process. A number of these key publications are shown below. The latest achievement entitled the Aguascalientes Statement on Development of Land Information Policies in the Americas is developed as a joint initiative of UN/FIG/PCIDEA with FIG taking the lead role. The publication is available in both English and Spanish.



*Samples of FIG publication available on the FIG website.*

Furthermore, the FIG publication Series also includes a number of publications addressing educational, professional, and institutional issues of global relevance, such as Continuing Professional Development, Ethical Principles, and Business Matters for Professionals, Standardization, and Mutual Recognition of Professional Qualifications. The publications are available on-line at the FIG Home Page <http://www.fig.net/pub/figpub/pubindex.htm>

## **A REGIONAL CASE STUDY OF LATIN AMERICA**

The UN, FIG, PC IDEA Inter-Regional Special Forum on “Development of Land Information Policies in the Americas” was based on a resolution adopted at the Seventh United Nations Regional Cartographic Conference for the Americas held New York January 2001. The International Federation of Surveyors (FIG) was tasked with taking the lead role in organizing the special forum with support from the United Nations Statistics Division, Department of Economic and Social Affairs, and the Permanent Committee on Spatial Data Infrastructures for the Americas (PC IDEA) and was hosted by the National Institute of Statistics, Geography and Informatics (INEGI) in Aguascalientes, Mexico.

Invitations were issued by the United Nations to Ministers of Government who have responsibility for the above functions, or their senior managers who have a policy responsibility, to attend. There were about 60 delegates from 18 countries together with representatives from the United Nations, PC IDEA, World Bank, and the Pan American Institute of Geography and History (PAIGH).

The initial issue was funding, which took some time to resolve. It is therefore gratefully acknowledged the support and funding provided by the Canadian Government through Natural Resources Canada, the United States of America Government through USGS/FGDC and USAID, the World Bank through the Danish Trust Fund, and PAIGH.

The program of the special forum consisted of four key-note presentations followed by some case studies from various regions of the world, and a number of case studies from the Latin American countries. The case studies followed a common format in order to ensure consistency and contextual focus. All papers were prepared by personal invitation in order to ensure consistency with the special forum profile. Sessions were allocated to discussions of the case studies and for short presentations and discussions on the challenges facing the Americas with respect to the theme of this forum. These provided the opportunity for those attending to either comment on a presentation or provide some insight into the situation within their own country. The full papers and the ppt-presentations are available in English and Spanish at the FIG website on <http://www.FIG.net/pub/mexico>.

A final report of the Special Forum will be tabled at the Eighth United Nations Regional Cartographic Conference for the Americas to be held in June 2005 in New York. The report will be entitled the “Aguascalientes Statement” that will also be published in the FIG series. The report should assist member States to develop appropriate institutional, legal and technical processes to integrate land administration and topographic mapping programs within the context of a wider national strategy for spatial data infrastructure. The Aguascalientes Statement states the following:

The Special Forum strongly endorses the need for Latin American and Caribbean countries to:

- Foster modern land policies and associated spatial data infrastructures so as to better support social, economic and environmental sustainability.
- Determine policies and programs for educational, professional, and institutional capacity building that will ensure the development of appropriate land administration systems and associated spatial data infrastructure.
- Develop appropriate institutional, legal and technical processes to integrate land administration, cadastre and land registration functions with topographic mapping programs within the context of a wider national strategy for spatial data infrastructure (SDI).

## **BACKGROUND**

There are difficulties being faced by many United Nations member States in designing appropriate spatial data infrastructures to support effective land administration, and in integrating cadastral and topographic spatial data, especially in digital form. Therefore, there is a need to improve capacity to design, build and manage land administration systems, which incorporate appropriate spatial data infrastructures.

In many cases there is a lack of understanding of the important role spatial information (i.e. information that provides location on the earth, e.g. to allow accurately plotting on maps) plays in land administration projects, particularly in developing countries.

In many countries the land ownership and registration function is located in one department e.g. the justice or legal department of government, while the geodetic survey and mapping function is located in another department, and often has very little if anything to do with the ownership and registration function. When a land administration project is initiated and funded, say by the World Bank, the government's institutional arrangements of departments can make it very difficult to access information and involve the skills and knowledge between different departments, e.g. between the survey and mapping functional area and justice and legal functional area.

With this background the objective of the special forum was:

- To establish an awareness of the economic and social value for decision makers, of the importance of developing land policies that effectively and efficiently incorporate appropriate spatial data infrastructures (SDI's).
- To develop an overall understanding of the economic and social benefits that results from integrating the land administration/cadastral/land registration functions with the topographic mapping function.

## **FACING THE CHALLENGES**

Good land management will help promote economic and social development in both urban and rural areas. For developing and transition countries, land reform policies are key components in achieving these goals. The challenges in this regard relate to educational, professional, and institutional issues.

With few University programs in Land Management, the Latin American and Caribbean region is lacking experts to support systems of sustainable land administration infrastructures. There is a need to develop comprehensive University programs with a broader profile than a technical focus. And there is need to share efforts and information between educational institutions in order to serve the basic land administration needs in the region. Donors such as the World Bank and other aid agencies where they are building land administration systems should include the educational component to ensure long term sustainability.

In many Latin American and Caribbean countries there is a need to establish professional associations that can set standards, enforce professional development, and interact with sister associations within the region and world wide through international NGO's such as FIG. This will increase awareness about regional and global opportunities for technological

development and transfer, institutional strengthening, and the exchange of managerial and SDI experiences.

With regard to institutional arrangements it is understood that one model will not fit all countries. In spite of sharing much the same geography and history, the Latin American and Caribbean region shows diverse approaches to land information and land registration systems, as well as to the building of spatial data infrastructures. Such systems are embedded in the institutional development of the country or jurisdiction and the institutional arrangements may change over time to better support the implementation of land policies and good governance.

In terms of capacity building attention should be given to sustaining existing educational facilities in terms of institutional development, quality management, and financial support. Attention should also be given to the development of one or more Regional Centers in the Latin American and Caribbean region for Education and Research in Land Administration. Such centers should act as ongoing bodies of knowledge and experience in land administration and using actual projects as long-term case studies and operational laboratories. The centers should provide educational programs and supervise establishment of educational programs at other institutions. The centers should develop guidelines for capacity assessment in land administration and interact with national institutions, international academics and professional bodies to assist regional and local development serving regional and local needs.

## **FINDINGS AND RECOMMENDATIONS**

The Special Forum discussed and took note of the major challenges faced by the Latin American and Caribbean region for the creation and maintenance of land administration infrastructures for poverty reduction, economic growth, and sustainable development. The presentations from various Latin American countries were very different, as experiences depend on social and cultural factors. However, most countries in the region seem to share the same needs in terms of capacity building for educational and institutional development in land administration. Key findings and conclusions are highlighted below:

- It is important that the countries in the region develop a wider vision for the creation of knowledge, reduction of poverty, and sustainability. In this regard, it is time to handle change and to convince politicians and decision-makers.
- The need to formulate national policies, legal frameworks, and standards for land administration, land information and spatial data infrastructure is widely acknowledged.
- It is important to demonstrate the economic value of land administration systems and SDI's to high-level decision-makers, considering the large number of priorities they are facing. This should be based on further case studies from the Latin American and Caribbean region

- Visionary leadership and also short term initiatives such as shared data collection projects are recognized as important to establish inter-organizational and inter-regional cooperation. It is necessary to ensure coordination between the key players, and to break down human, technical and political barriers.
- It is important to have a focus on the users needs in order to build trust amongst the beneficiaries of the systems. Credibility and transparency must be built into the processes, including institutional continuity and continuous modernization.
- The need for capacity development of human resources through the building of programs for education and training in land administration must be reinforced. This also applies to the establishment of national professional bodies to interact at regional and global level.
- There is a need to integrate land administration, cadastre and land registration functions with topographic mapping programs within the context of a wider national strategy for spatial data infrastructures.

## **FINAL REMARKS**

The objective of this paper is to build a general understanding of the Land Management Paradigm and the need for capacity building and institutional development to establish sustainable national concepts in this area. This includes creation and adoption of a comprehensive policy on land development, and a holistic approach to land management that combines the land administration/cadastre/land registration function with the topographic mapping function

This debate should be aware of the global trends in this area while still recognizing that the design of such systems will always be unique due to the different geographic and cultural preconditions and needs of each respective country. This calls for increased international co-operation. FIG is prepared to invest in such corporative efforts.

The conclusions can be summarized in the “Aguascalientes Statement” as also presented in this paper. Most countries in the Latin American and Caribbean region seem to share the same needs in terms of capacity building for educational and institutional development in land administration. The Statement recommends establishing an awareness of the economic and social value for decision makers, of the importance of developing land policies that effectively and efficiently incorporate appropriate spatial data infrastructures (SDI’s). It further recommends that an overall understanding of the economic and social benefits that results from integrating the land administration/cadastre/land registration functions with the topographic mapping function.

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## BIOGRAPHICAL NOTES

**Stig Enemark** is Professor in Land Management and Problem Based Learning at Aalborg University, Denmark, where he was Head of the School of Surveying and Planning 1991-2005. He is currently Vice-President of FIG 2005-2008 as well as President of the Danish Association of Chartered Surveyors. He holds a masters of science in surveying, planning and land management and he obtained his license for cadastral surveying in 1970, working for ten years as a consultant surveyor in private practice. He was chairman of FIG Commission 2 (Professional Education) 1994-98, and he is an Honorary Member of FIG.

His teaching and research are concerned with land administration systems, land management and spatial planning, and related educational and capacity building activities. Another research area is within Problem Based Learning and the interaction between education, research and professional practice. He has undertaken consultancies for the World Bank and the European Union especially in Eastern Europe and Sub Saharan Africa. He has about 250 publications to his credit, and he has presented invited papers to more than 60 international conferences.

## CONTACTS

Professor Stig Enemark  
Aalborg University, 11 Fibigerstrede  
DK 9220 Aalborg, Denmark  
Tel +45 9635 8344; Fax +45 9815 6541  
Email: [enemark@land.aau.dk](mailto:enemark@land.aau.dk)  
Web: [www.land.aau.dk/~enemark](http://www.land.aau.dk/~enemark)